

CLAIMS

1. A giving set cap (40) for providing fluid communication between two vessels (2, 14), the cap comprising a delivery tube having a main channel (50) for delivering fluid from a first vessel (2) to a second vessel (14) and a subsidiary channel for the delivery of a different material to said first or second vessel, characterised in that the cap has an inlet (48) for delivering fluid from said first or second vessel through the main channel, the inlet being spaced at a sufficient distance from an outlet (46) of the subsidiary channel to allow mixing of the different material with said fluid prior to delivery to said other vessel and that an inlet (45) of the subsidiary channel is adapted to receive a needleless syringe.
2. A giving set cap as claimed in claim 1, wherein the outlet (46) of the subsidiary channel is spaced at least 10mm from the inlet of the main channel (50).
3. A giving set cap as claimed in claim 2 wherein the outlet (46) of the subsidiary channel is spaced at least 20mm from the inlet of the main channel (50).
4. A giving set cap as claimed in claim 3 wherein the outlet (46) of the subsidiary channel is spaced at least 25mm from the inlet of the main channel.
5. A giving set cap as claimed in any one of the preceding claims further comprising connector means (42) for allowing attachment of the cap (40) to a giving set chamber (14).
6. A giving set cap as claimed in any one of the preceding claims further comprising piercing means (44) for attachment of the cap (40) to an intravenous bag or container (2).

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7. A giving set cap as claimed in claim 6 wherein one end of the delivery tube is tapered to provide said piercing means (44).
8. A giving set cap as claimed in claim 7, wherein the tapered end of the delivery tube is rounded.
9. A giving set cap as claimed in any one of claims 5 to 8 wherein the main channel of the delivery tube extends through the connector means (42).
10. A giving set cap as claimed in any one of the preceding claims wherein the main channel is provided with at least two inlets.
11. A giving set cap as claimed in claim 10 wherein the main channel is provided with three inlets.
12. A giving set cap as claimed in any one of claims 5 to 11 wherein at least one outlet for the delivery tube is provided in the connector means (42).
13. A giving set cap as claimed in any one of claims 5 to 12 wherein at least one inlet (45) for the subsidiary channel is provided in the connector means (42).
14. A giving set cap as claimed in any one of the preceding claims wherein the inlet (45) of the subsidiary channel is provided with a detachable cover.
15. A giving set cap as claimed in any one of claims 1 to 12 wherein the inlet (45) of the subsidiary channel is provided with an adapter (60) having means (62) for its temporary attachment to the inlet, a passage (70) therethrough to act as an air vent and a detachable cap (72).
16. A giving set cap as claimed in claim 15 wherein the adapter has a male or female member for mating with a complimentary member on the inlet.

17. A giving set cap as claimed in claim 16 wherein the adapter has an inner tube (64) for inserting within the inlet and a threaded region (66) for engagement with outer sides of the inlet.
18. A giving set cap as claimed in claim 15, 16 or 17 wherein an air-permeable membrane is provided across the passage of the adapter.
19. A giving set cap as claimed in any one of claims 15 to 18 wherein the cap (72) is hingedly mounted with respect to the adapter.
20. A giving set cap as claimed in claim 15 wherein a vented Luer lock cap comprises the adapter.
21. A giving set cap as claimed in any one of claims 5 to 14 wherein the inlet (45) of the subsidiary channel is provided in one side of the connector means (42).
22. A giving set cap as claimed in any one of the preceding claims wherein the subsidiary channel extends up one side of the delivery tube.
23. A giving set cap as claimed in any one of claims 5 to 22 wherein the connector means (42) is provided with internal threads for attachment to a drip chamber (14) of a giving set.
24. A giving set cap as claimed in any one of claims 5 to 23 wherein the connector means (42) comprises a cylindrical member having the main channel (50) extending through the centre thereof.
25. A giving set comprising a drip chamber (14) attached to a line with a giving set cap (40) as claimed in any one of the preceding claims.
26. An infusion apparatus comprising an intravenous bag or container (2), a giving set cap (40) connecting said bag/container to a drip chamber (14) having a line characterised in that the giving set cap (40) comprises a delivery tube having a main

channel (50) for delivery fluid from the bag/container to the chamber and a subsidiary channel for the delivery of a different material to said bag/container, the cap having a first inlet (48) for delivery of fluid from the bag/container through the main channel to the chamber, and a second inlet (45) for the subsidiary channel, the first inlet being spaced at a sufficient distance from an outlet (46) of the subsidiary channel to allow mixing of the different material with said fluid prior to delivery to the chamber and the second inlet (45) being adapted to receive a needleless syringe.

27. An infusion apparatus as claimed in claim 26 wherein the giving set cap has connector means (42) for allowing attachment of the cap to the drip chamber.

28. An infusion apparatus as claimed in claim 26 or 27 wherein the giving set cap has piercing means (44) for attachment of the cap to the bag/container.

29. An infusion apparatus as claimed in any one of claims 26 to 28 wherein the at least one inlet (48) of the main channel of the giving set cap is provided in a part of the delivery tube that extends into the bag/container (2).

30. An infusion apparatus as claimed in any one of claims 26 to 29 wherein at least one outlet (46) of the subsidiary channel of the giving set cap is provided in the part of the delivery tube that extends into the bag/container (2).

31. An infusion apparatus as claimed in claim 30 when dependent from claim 28 wherein the outlet (46) is provided close to said piercing means.

32. An infusion apparatus as claimed in any one of claims 27 to 31 wherein the inlet (45) of the subsidiary channel is provided with an adapter (60) having means (62) for its temporary attachment to the inlet, a passage (70) therethrough to act as an air vent and a detachable cap (72).